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An Essay

on the Medical Topography & Autumnal Fever
of Washington North Carolina

by
John W. Potts.

The following is a list of the names of the persons who have been elected to the office of the President of the United States since the year 1789.

1789 George Washington
1793 John Adams
1797 John Adams
1801 James Madison
1805 James Madison
1809 James Madison
1817 James Monroe
1821 James Monroe
1825 James Monroe
1829 Andrew Jackson
1837 Andrew Jackson
1841 Andrew Jackson
1845 James K. Polk
1849 Zachary Taylor
1853 Franklin Pierce
1857 Franklin Pierce
1861 Abraham Lincoln
1865 Abraham Lincoln
1869 Ulysses S. Grant
1873 Ulysses S. Grant
1877 Rutherford B. Hayes
1881 Rutherford B. Hayes
1885 James A. Garfield
1889 Benjamin Harrison
1893 Benjamin Harrison
1897 William McKinley
1901 William McKinley
1905 Theodore Roosevelt
1909 Theodore Roosevelt
1913 Woodrow Wilson
1917 Woodrow Wilson
1921 Warren G. Harding
1925 Calvin Coolidge
1929 Herbert Hoover
1933 Franklin D. Roosevelt
1937 Franklin D. Roosevelt
1941 Franklin D. Roosevelt
1945 Franklin D. Roosevelt
1949 Dwight D. Eisenhower
1953 Dwight D. Eisenhower
1957 Dwight D. Eisenhower
1961 John F. Kennedy
1965 Lyndon B. Johnson
1969 Richard Nixon
1973 Richard Nixon
1977 Jimmy Carter
1981 Ronald Reagan
1985 Ronald Reagan
1989 George H. W. Bush
1993 Bill Clinton
1997 Bill Clinton
2001 George W. Bush
2005 George W. Bush
2009 Barack Obama
2013 Barack Obama
2017 Donald Trump
2021 Joe Biden

On the Medical Topography and Autumnal Fever of Washington N.C.

To the eye of the medical observer, the topography of the lower section of North Carolina presents objects of interesting speculation. In no part of our country, can we more plainly trace the operation of those impalpable agents, that have been acknowledged by the universal suffrage of physicians as the origin of autumnal diseases. To notice in detail every thing that might be comprehended in a topographical sketch, would extend this essay beyond proper limits. I shall briefly allude to the more prominent local peculiarities, necessarily omitting much that might be considered as intimately connected with the subject.

²⁴Washington is situate on the North side of Pamlico river, about thirty miles from its entrance into the Sound, from which latter place to the Ocean the distance is computed at forty miles.

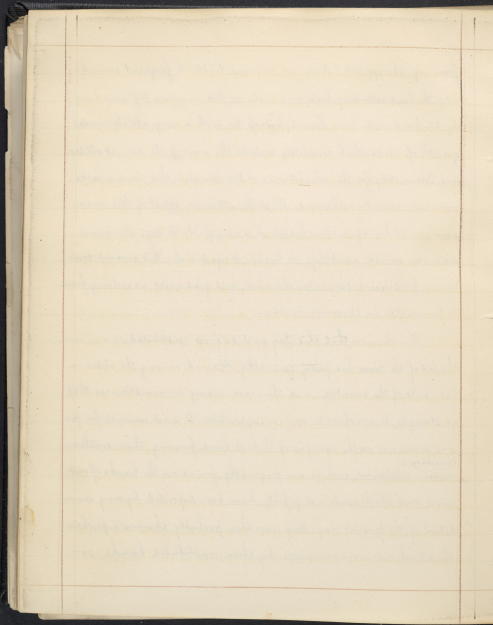
Latitude $35^{\circ} 30''$

Longitude $77^{\circ} 40''$.

The river at the town is about $\frac{1}{4}$ of a mile in width. The banks on the North side are elevated and rarely overflowed, while those,

forming the opposite shore, are low and liable to frequent inundations. The land extending back for a mile or two is swampy and heavily timbered with Gum, Laurel, Cypress &c, with a very thick undergrowth of reeds, which completely exclude the rays of the sun at all seasons. Fortunately for the inhabitants of Washington, this immense portion can never be reclaimed. What the ultimate effect of this measure would be upon their health it is impossible to say; its immediate one would doubtless be highly prejudicial. This swamp continues for some miles down the river, and gradually receding from it terminates in Choctawhatchee Bay.

The opinion that this Bay and swamp constituted, at one time, the bed of the river has pretty generally obtained among the older inhabitants of the country: and there are many circumstances that go strongly to corroborate such a supposition. It is not unusual for persons to discover on the margin of the high land, forming their southern boundary, marine substances, such as are frequently found on the banks of our rivers, and which could not possibly have been deposited by any inundation of the present day. They were then probably thrown up, when the situations now occupied by them constituted banks or



shows to the river. A gentleman, who resides near the commencement of this high land, discovered some time since, at the distance of twenty five feet below the surface, a stratum of vegetable matter but partially decomposed, which closely resembled the present covering of the marshes, of its identity with which, he was firmly persuaded. Another highly intelligent gentleman, in the same vicinity, discovered, at the distance of thirty feet below the surface, the trunk of a tree lying, as it had probably been pressed by the immense weight upon it, on an inclined plane; and near it, the stump to which originally it had been attached. These circumstances taken in connection with the general aspect of the country, go strongly to justify the conclusion, that the spots at which these phenomena were observed, must have been at a remote period, paludal, and formed marshy banks or margins to the river, of which Chocowinity bay and swamp constituted the bed.

How this change was effected - whether by some convulsives of nature or by the slower process of gradually deserting its former bed, it is impossible even to conjecture. On this point, tradition furnishes nothing to aid us. Enough, however, is

1847

1. The first of the year was a very dry one, and the crops were much injured by the drought. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

2. The second of the year was a very wet one, and the crops were much injured by the rain. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

3. The third of the year was a very dry one, and the crops were much injured by the drought. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

4. The fourth of the year was a very wet one, and the crops were much injured by the rain. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

5. The fifth of the year was a very dry one, and the crops were much injured by the drought. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

6. The sixth of the year was a very wet one, and the crops were much injured by the rain. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

7. The seventh of the year was a very dry one, and the crops were much injured by the drought. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

8. The eighth of the year was a very wet one, and the crops were much injured by the rain. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

9. The ninth of the year was a very dry one, and the crops were much injured by the drought. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

10. The tenth of the year was a very wet one, and the crops were much injured by the rain. The wheat was particularly affected, and the yield was very small. The corn was also much injured, and the yield was very small. The other crops were also much injured, and the yield was very small.

known to assure us that some great and important change has been wrought in the aspect of the country. and their ^{existence} exclusiveness in the situations mentioned will prevent a successful application of Buffon's views to the explanation of these phenomena.

At the upper or west end of the town, the land is high and sandy, for perhaps a mile, where Trantir's creek a bold and rapid stream in its junction with Tan river forms the Pamlico. At the east, another creek of considerable size makes in, and empties itself, just below the town. The water in the river is generally fresh except when strong easterly winds prevail. Masters of vessels in filling water for use at sea, invariably prefer it to the pump or mill water. It is said to keep much longer and better.

The land in the vicinity, and the remark may be extended to all the eastern section of North Carolina, is flat and generally sandy. Swamps and morasses, particularly in the neighborhood of water courses are numerous and often extensive. As you recede however from the river, these become fewer and the land more elevated but less fertile. The inhabitants here obtain infinitely better water and enjoy better health. In the former

situations Corn and Cotton are cultivated to considerable advantage - while the inhabitants of the latter are mainly dependant upon the manufacture of naval stores.

The mineralogy of this and indeed of every part of our state, is but imperfectly known - In fact, untill the last few years, no thing had been done towards its investigation. The Legislature have lately secured the services of Professor Mitchell, who has engaged in this important and interesting undertaking, with an ardour that promises the most distinguished success. From his industry and acknowledged abilities much may be expected. In the vicinity of Washington there are several Springs said to be possessed of active chalybeate properties, and to have been useful in convalescence from our autumnal fever, and in some female complaints.

Our summers are extremely variable and irregular; sometimes pleasant throughout, at other times marked by intense heat. The hot weather generally commences about the first of June and terminates towards the close of September. The greatest degree of heat occurs about the solstice, but that of August and September is far more

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oppression and disagreeable. The thermometers, during this period ranges from eighty to ninety of Fahrenheit. The same variety is observed with regard to rain. Sometimes the fervors of summer are tempered with regular and refreshing showers - sometimes by tremendous gusts amounting almost to tornadoes - at other times, the distillation is copious and incessant, inundating the country in every direction and destroying the crops to a corresponding extent. Then again the summers are dry, vegetation declines, and the earth presents a surface, as parched and arid as the plains of Hindostan.

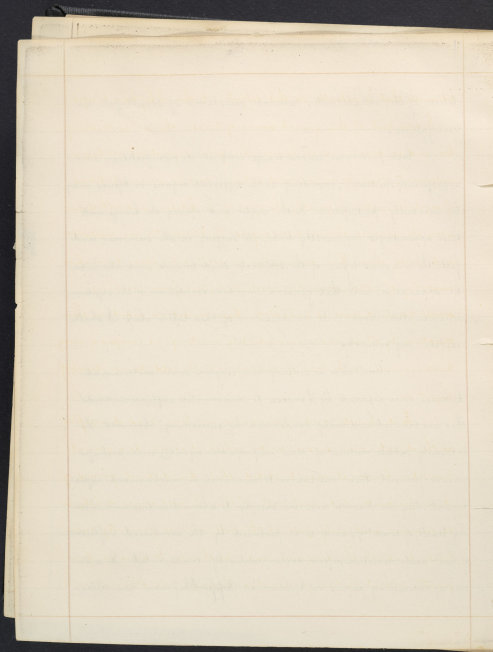
That the diseases of this section of country, and the remark perhaps may be extended to the whole continent are gradually becoming more complex and diversified, is generally acknowledged by those whose opportunities of observation have enabled them to determine with accuracy. To what cause this variation may be attributed, it is perhaps impossible to say.

Whether the gradual changes that are taking place in our climate, as well as upon the face of the country have produced this important revolutions, or whether it may be traced to changes that have been wrought in the moral and physical consti-

tation of its inhabitants, remain questions of scientific investigation.

Each particular season brings with it, its own peculiar and appropriate epidemic, according as the different organs or tissues may be morbidly predisposed. In the winter and spring the lungs and their appendages are mostly liable to suffer; in the summer and fall, the mucous tissues of the stomach and bowels and the hepatic apparatus, with that general morbid condition of the system denominated Fever. To the diseases of this latter class I shall confine my remarks.

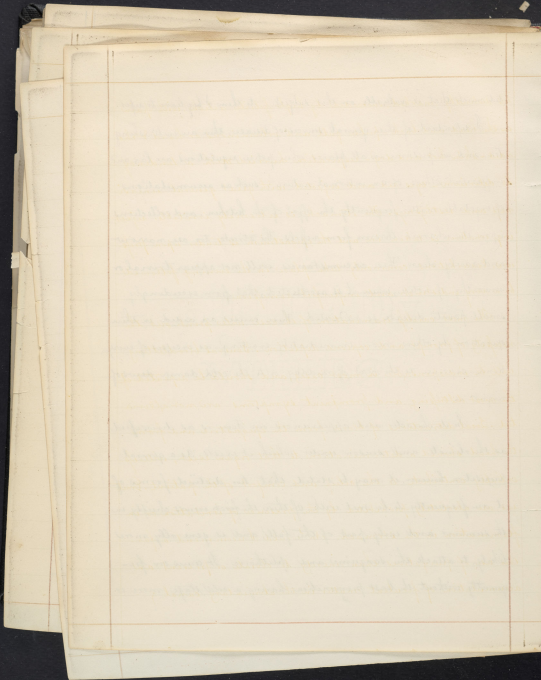
More than a century has elapsed since autumnal diseases were referred by Lancisi to miasmatic influence and this has been abundantly confirmed by succeeding observers. The extremely subtle nature of these imperceptible agents will perhaps forever prevent their subjection to chemical or mechanical experiment. They are known however chiefly to abound in low and marshy tracts of country, and to be produced by the combined influence of heat and moisture upon soils peculiarly constituted. In a series of interesting papers on epidemics Professor Chapman has collec-



ted, much that is valuable on this subject - to them I beg leave to refer.

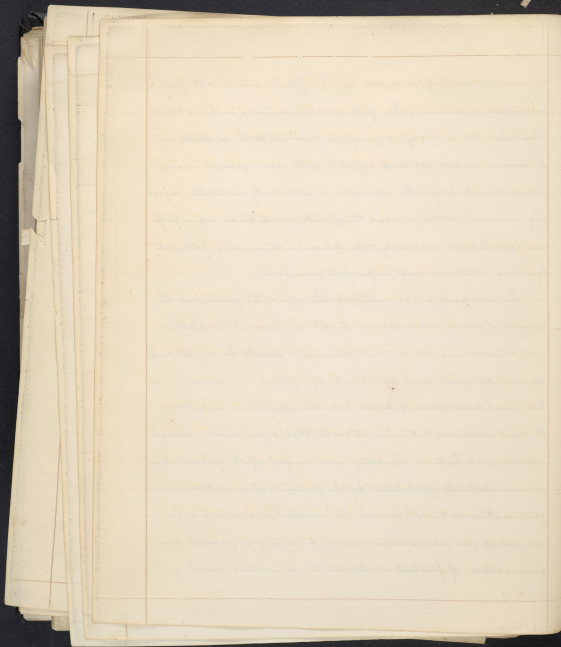
Independent of these general sources of disease, there are in Washington, and we presume in all places where police regulations are lax and inefficient, others of an internal nature; such as accumulations of vegetable matter, frequently the offal of the kitchen, and collections upon the wharves thrown from refuse. The streets too are narrow and rarely clear. These circumstances will not appear trivial or unworthy of notice, when it is recollected, that from exceedingly small points disease is radiated. These causes are aided in their operation by others more immediately exciting - as excesses of every kind - exposure to the heat of midday or to the cold damp dews of night -

In its character and appearances our Fever is as diversified as the climate and season under which it exists. As a general proposition however, it may be stated, that two distinct forms of it are frequently to be met with. Of these the first occurs chiefly in the summer and early part of the fall, and is generally more likely, to attack the sanguines and plethorics. It comes on frequently without the least premonition, having a cold stage more or



lips distinctly marked, succeeded by high febrile action, with pain in the head and back - pulse full and voluminous or hard & throbbing - skin hot and dry - respiration hurried with a tendency to delirium - eyes red and injected with great general uneasiness and restlessness. The stomach is extremely irritable rejecting whatever is taken in and the epigastrium is tender upon pressure. Exacerbations commonly take place in the evening followed by a very indistinct and imperfect remission.

The most careful examinations of the case will point out the necessity of prompt and copious depletion. General bloodletting will be indispensable in most cases, and should be repeated if the most distressing and prominent symptoms are not alleviated. Local detractions of blood from the epigastric and from the head should a determination to that organ exist, will essentially contribute to the relief and comfort of the patient. Emetics are absolutely prohibited by the presence of irritation or inflammation in the stomach. No would I recommend a farther use of purgatives than merely to obviate or prevent an accumulation of feculent matter in the alimentary canal ;



and this is perhaps best accomplished by Calomel in moderate doses succeeded by castor oil or enemata. These measures aided by cold applications & blisters followed towards the close of the disease by some mild diaphoretic will generally prove sufficient for the cure.

The other form of Fever presents itself under somewhat different appearances and may be said to constitute the true Bilious Fever of the South. No sex, age or temperament furnishes an immunity against its attack, and the most careful observances of all those precepts for the protection of health, that have been detailed by successive writers upon the subject, will often be insufficient to secure against its invasion. It is generally ushered in by a universal languor as well mental as corporeal; with yawning and stretching, followed by a distinctly marked cold stage. The ordinary phenomena of fever are soon developed with a pulse quick, irritated and rather contracted in volume; not much acuteness of pain but great restlessness, nausea and vomiting. The bowels are generally constipated, sometimes however in a state of dysenteric irritation.

the first of the month of January 1861
the second of the month of January 1861
the third of the month of January 1861
the fourth of the month of January 1861
the fifth of the month of January 1861
the sixth of the month of January 1861
the seventh of the month of January 1861
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the tenth of the month of January 1861
the eleventh of the month of January 1861
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the thirteenth of the month of January 1861
the fourteenth of the month of January 1861
the fifteenth of the month of January 1861
the sixteenth of the month of January 1861
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the twenty-sixth of the month of January 1861
the twenty-seventh of the month of January 1861
the twenty-eighth of the month of January 1861
the twenty-ninth of the month of January 1861
the thirtieth of the month of January 1861
the thirty-first of the month of January 1861

The eyes are muddy and deprived of their accustomed brilliancy, the tongue red in the centre, or covered with a yellowish coat, the respiration hurried and oppressed. In a few days this state of comparative oppression gives way to one of more unequivocal excitement. The pulse now becomes full and voluminous with some degree of tenseness - the skin hot and dry; pain in the head frequently an attendant, with a throbbing sensation peculiarly distressing. The discharges from the bowels are small and offensive. A tenderness more or less distinct is felt over the region of the stomach extending, itself frequently to the right hypochondrium. After these symptoms have continued for some days they abate or are followed by others of an alarming character as wild delirium - subsultus tendinum - incontinence of urine and feces. The surface becomes cold and is covered with a dewy, clammy perspiration and death ultimately closes the scene. Cases sometimes occur where the temperature of the surface is not at all increased and where there is little or no arterial excitement. These have been generally supposed to be more unmanageable. Their anomalous character

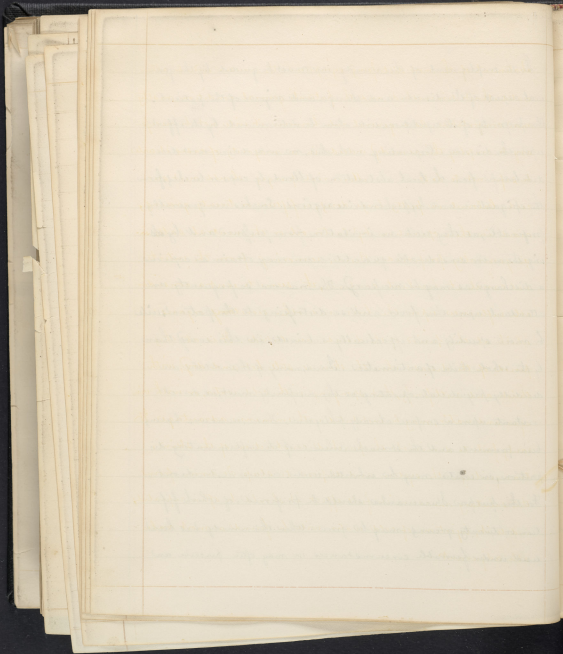
It is an ancient and well known fact that the human mind is
not a tabula rasa, but is filled with ideas and impressions from
the moment of birth. These ideas and impressions are the result of
the influence of the environment upon the senses. The mind is
not a passive receiver of impressions, but an active interpreter
of them. It is the function of the mind to organize and
interpret the impressions received from the senses. The mind
is the seat of the intellect, and it is the intellect that
gives meaning to the impressions received from the senses.
The mind is the source of all knowledge, and it is the
mind that creates the ideas and concepts that we use to
describe the world around us. The mind is the power that
enables us to think, to feel, and to act. It is the mind
that makes us human, and it is the mind that gives us
the ability to create and to improve our world.

has been explained by Armstrong by attributing it to a congestion in the large vessels about the heart; and this would seem satisfactory for as soon as the balance of the circulation has been restored and unequivocal evidences of excitement manifested they yield to the usual method of treatment.

No light has been shed upon the nature of these affections by post mortem examinations. But judging from the phenomena constantly exhibited in the progress of the disease and reasoning from analogy furnished by dissections elsewhere prosecuted, we can have no hesitation in pronouncing their Pathology. Located primarily in the stomach and small intestines, and consisting in inflammation, ~~or~~ ^{and} or less intense, of its mucous lining, the disease is extended so as to involve ultimately every organ and tissue of the animal machine.

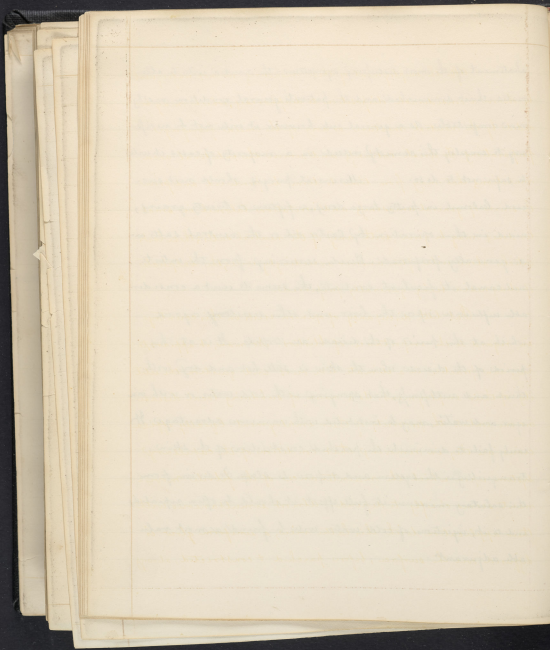
Guided by these pathological views, our earliest attempts will, of course, be directed to the correction of this condition - and in the selection of the means best adapted to this end our attention is earliest arrested by the importance of bloodletting -

In the employment of this remedy we must be guided by the general aspect of the disease and the age and vigour of the patient. The propriety of its repetition, will alone be determined by its effect upon the disease. Cooperating with this, we will derive most decided benefit from the local abstraction of blood, by cups or leeches, from the epigastric and hypochondriac regions. Leeches are generally preferable, as they excite no irritation from pressure and by absorbing them in considerable quantities, we may obtain as copious a discharge as may be necessary. The nausea so frequently an attendant upon this fever and so distressing to the patient, will be more speedily and effectually relieved, in this way than by the whole tribe of antispasmodics. Indeed, many of these articles are decidedly pyridic, operating as they necessarily must, as direct irritants upon a surface already phlogosed. These measures having been premised and the stomach relieved of its inflammatory disposition, an emetic may be exhibited under certain restrictions. For this purpose Ipecacuanha should be preferred, of which fifteen or twenty grains may be given. When this remedy has been used under favorable circumstances we may often perceive an



abatement of the most distressing symptoms - the nausea will be allu-
vated, thirst diminished and the patient's general condition vastly
more comfortable. As a general rule however it will not be neces-
sary to employ this remedy, indeed in a majority of cases it will
be safer not to do so.

Mercurial purges should next suc-
ceed - Calomel in pretty large doses, as fifteen or twenty grains,
aided in their operations by Castor oil or the neutral salts in-
is generally preferred. Besides removing from the intesti-
nal canal its feculent contents, this seems to exert a consider-
able influence upon the liver and other secretory organs
which at this period of the disease are torpid. It is at these
periods of the disease when the skin is still hot and dry, with
thirst and restlessness, that sponging with cold water, or with vin-
egar and water, may be instituted with immense advantage. It
rarely fails to diminish the parched constriction of the skin,
tranquillize the system and dispose to sleep. To derive from
this salutary measure its full effect it should be often repeated,
and to it, injections of cold water will be found a most valu-
able adjuvant.



After the employment of these measures, is not infrequent
ly observed a considerable disposition to diaphoresis, which may be
aided by the neutral mixture or any of the mild febrifuge
preparations. To drive continually and remove the intestinal accu-
mulations that may from time to time be produced and prove
the source of general uneasiness and irritation Calomel in small
doses may be given with any of the neutral salts; these last
articles alone will often answer exceedingly well, the Sulphate
of Magnesia being generally preferred.

But little discrepancy of opinion exists in this country
in regard to the importance of blisters. No man, it appears to
me, can practice in a climate like ours and question the util-
ity of their employment. As a mean of subduing local disease
no one contests the propriety of their employment. Equally effica-
cious are they in removing that condition of the capillary
system upon which the maintenance of the febrile move-
ment seems chiefly to depend. Almost simultaneous with
their application with this latter view, a uniform glow is
diffused over the surface, before parched & constricted, always

a harbinger of good import and omens of a favorable and speedy solution. To be most effectual they should be applied to the back of the neck, the stomach and extremities. When the excitement is unequal we should employ the tepid bath, blisters, stimulating frictions with warm drinks.

A variety of deviations from the course that has been detailed will frequently be observed. Thence the practitioner should carefully examine, and adopt such means of relief as his judgment may enable him to select.

It will be sometimes be necessary - and particularly so in protracted cases and where the symptoms are distinct and well marked to exhibit the Sulphate of Quinine or some other tonic. Some degree of caution however is requisite in determining upon the proper period for its administration, for if employed before the system is prepared for its reception, it may aggravate instead of alleviate the case.

It will be perceived that in the foregoing sketch I have said nothing of mercury. This remedy is rarely employed in the section of country whose diseases I have attempted to de-

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scribes, nor should I be disposed in recent cases, to anticipate a great deal from its employment.

During the progress of the disease the diet should be of the mildest character, as rice water, toast water or barley water. As articles of drink we may recommend besides simple water, lemonade apple water or any slightly acid beverage.

Hitherto, in the treatment of southern fevers, physicians have relied too exclusively upon purgatives. This cannot be productive of the end that is proposed, as continued purgations will necessarily produce an extremely irritable condition of the intestines and exhaust the patient without conquering the disease. It has been practised from a belief that active catharsis was necessary to carry off the inordinate secretion of bile, when a closer observation would convince us, that the liver, instead of secreting an undue quantity of this fluid, is in fact torpid and congested. The judicious physicians then, instead of harassing his patient with successive cathartics, will direct his remedies to the relief of that organ; and by the application of leeches cups, blisters and the subsequent exhibition of the mild mercurials, endeavor to remove its engorgement.

It watch with eager eyes the operations of Nature and aid or restrain
them as an enlightened discrimination may direct, constitutes the excellence
as it unquestionably does, the success of the physician. Hence he, who studies
her most attentively and scans her ways with the greatest precision and
accuracy, will never fail to prove the most useful and fortunate practitioner.
It has been, and perhaps still is, the highest opprobrium of
our science, that those engaged in the prosecution of it, have been too at-
tentive to the names of diseases. It is to the successful cultivation of mo-
dern pathology, that we are indebted for the light that will ultimately
dispel the clouds that have obstructed our advancement. It is cheering
no less to the philanthropic, than to the scientific mind to observe the as-
tonishing success with which rational medicine has been pursued during
the present century. Such indeed has been the rapidity of its advancement,
as justly to constitute the period an era in its history. Much remains
yet to be accomplished - and from the zeal and talent engaged in the
pursuit, we may anticipate the most cheering and favorable results,
results that will render it, what it should always have been, a science
of reason and induction
